

IN THE CLAIMS:

Please amend claims 1 and 7, as shown in the complete list of claims that is presented below.

1. (currently amended) A semiconductor device, ~~comprising;~~ comprising:
a semiconductor layer having a first conductivity type;
a transistor ~~formed in a transistor well in the semiconductor layer, the transistor~~
well having a second conductivity type; and
a vertical diode formed in a diode well [[on]] in the ~~same substrate as the~~
~~transistor semiconductor layer~~ and connected in parallel with said transistor, the diode
well having the second conductivity type and being spaced apart from the transistor well,

wherein said diode has a resistance during breakdown operation of said diode that is smaller than a resistance of said transistor during breakdown operation of said transistor,

wherein a secondary breakdown current of said diode is larger than a secondary breakdown current of said transistor, and

wherein said diode has a breakdown voltage that is established at a desired value as a function of a junction depth of said diode, an impurity concentration in said well, a resistivity of said substrate, and a thickness of said substrate.
2. (previously presented) The semiconductor device according to claim 1,

wherein the secondary breakdown voltage of said diode is smaller than the secondary breakdown voltage of said transistor.

3. (previously presented) The semiconductor device according to claim 1, wherein the breakdown voltage of said diode is smaller than the breakdown voltage of said transistor.

4. (previously presented) The semiconductor device according to claim 3, wherein the secondary breakdown voltage of said diode is smaller than the secondary breakdown voltage of said transistor.

5. (previously presented) The semiconductor device according to claim 1, wherein the secondary breakdown current of said diode is larger than a surge current flowing to said diode.

6. (previously presented) The semiconductor device according to claim 1, wherein said transistor is a lateral MOSFET and said diode is a Zener diode.

7. (currently amended) A semiconductor device, comprising:
a semiconductor layer having a first conductivity type;
a transistor formed in a transistor well in the semiconductor layer, the transistor
having a second conductivity type;

an input terminal;

an output terminal;

a voltage source terminal; and

a surge absorption element that protects the transistor and that is formed in a surge
absorption well in a semiconductor layer at a position spaced apart from the transistor

well, the surge absorption well having the second conductivity type, the surge absorption element being provided in a circuit location between the input terminal and voltage source terminal, a circuit location between the output terminal and voltage source terminal, or a circuit location between the voltage source terminal and ground;

wherein the surge absorption element and the transistor satisfy all of the following relationships:

the surge absorption element has a resistance during breakdown operation of the surge absorption element that is smaller than a resistance of the transistor during breakdown operation of the transistor,

a secondary breakdown current of the surge absorption element is larger than a secondary breakdown current of the transistor,

the secondary breakdown voltage of the surge absorption element is smaller than the secondary breakdown voltage of the transistor,

the breakdown voltage of the surge absorption element is smaller than the breakdown voltage of the transistor, and

the secondary breakdown current of the surge absorption element is larger than a surge current flowing to the surge absorption element.

8. (previously presented) The semiconductor device of claim 1, wherein said substrate has a resistivity ranging from about $0.3 \Omega\text{cm}$ to about $10 \Omega\text{cm}$ at a location where said diode and said transistor are fabricated.

9. (previously presented) The semiconductor device of claim 1, wherein said diode occupies in an area on said substrate that is not substantially larger than is

necessary in order for the resistance of said diode during breakdown operation of said diode to be smaller than the resistance of the transistor during breakdown operation of the transistor, and for the secondary breakdown current of said diode to be larger than the secondary breakdown current of said transistor.

10. (previously presented) The semiconductor device of claim 7, wherein the transistor and the surge absorption element are fabricated on a substrate, and wherein said substrate has a resistivity ranging from about 0.3 Ωcm to about 10 Ωcm at a location where said surge absorption element and said transistor are fabricated.

11. (previously presented) The semiconductor device of claim 7, wherein the transistor and the surge absorption element are fabricated on a substrate, and wherein said surge absorption element occupies in an area on said substrate that is not substantially larger than is necessary in order for said surge absorption element to fulfill said relationships.

12. (previously presented) The semiconductor device of claim 7, wherein the surge absorption element is a vertical diode that is formed in a diode well, said diode having a breakdown voltage that is established at a desired value as a function of a junction depth of the diode, an impurity concentration in the well, a resistivity of a substrate on which the diode and the transistor are fabricated, and the thickness of the substrate.